Large Mesenteric Cyst (Cystic Lymphangioma) in Young Male Patient - Case Report

Jurij Janež*

*Department of Abdominal Surgery, University Medical Centre Ljubljana, Zaloška Cesta 7, 1525 Ljubljana, Slovenia.

Author’s contribution

The sole author designed, analyzed and interpreted and prepared the manuscript.

ABSTRACT

Cavernous lymphangioma (cystic hygroma) is a rare form of mesenteric cystic tumor, which can be located anywhere along the intestinal mesenterium or elsewhere in the body. Mesenteric cystic tumors are rare malformations. They are more common in pediatric population with estimated incidence to be 1 in 20,000 patients, rarely they occur in adults with estimated incidence to be 1 in 100,000 patients. Usually they are benign growths with malignant transformation reported in 3% of cases and they usually present in the first decade of life. Mesenteric cysts are often incidental findings on physical examination or imaging in about 40% of cases, but they can cause unspecific abdominal symptoms. In this article is presented a case of a 26-year-old male patient with a large cystic mesenteric tumor, a cavernous lymphangioma.

Keywords: Cystic hygroma; cavernous lymphangioma; surgical treatment; laparotomy; laparoscopy.
1. INTRODUCTION AND GOAL

The goal of this article is to present an unusual case of a young male patient with asymptomatic intra-abdominal cystic hygroma, that was treated at our department and to discuss some theoretical basis about intra-abdominal mesenteric cystic lesions.

Mesenteric cysts are rare intra-abdominal tumors with estimated incidence to be 1 in 100,000 in adults and 1 in 20,000 in children with a 1:1 male to female ratio. Mesenteric cystic tumors are defined as cystic masses located in the mesentery [1]. Usually they are simple mesothelial cysts of mesothelial origin. Their size can range up to 40 cm. Cavernous lymphangioma is a mesenteric cyst of lymphatic origin. It is also known as cystic hygroma [2]. Perrot classification showed that peritoneal simple mesothelial cyst, benign cystic mesothelioma and malignant cystic mesothelioma are mesenteric cysts of mesothelial origin and other types are dermoid cysts and cysts of lymphatic, enteric or urogenital origin [2]. Mesenteric cysts are commonly located at the ileal mesentery, but they also can be found anywhere at the mesentery from the duodenum to the rectum. Mesenteric cysts are usually benign growths, but they have a malignant potential with estimated malignant transformation in about 3% of cases. About 40% of cases are found incidentally on physical examination or imaging, the other cases are presented with unspecific abdominal symptoms, such as palpable abdominal mass, abdominal distension or pain. Mesenteric lymphangiomas can present in 10% of cases with bowel obstruction, volvulus, torsion or shock [3]. The mainstay of investigation is computerized tomography (CT) [4]. Complete surgical excision is the treatment of choice. This can be accomplished by laparotomy or by minimally invasive surgery [5].

2. CASE REPORT

A 26-year-old male patient was referred to our department for surgical treatment of large mesenteric cyst in the left abdomen. He was completely asymptomatic, the cystic tumor was incidental finding on abdominal ultrasound (US). He was referred to abdominal computed tomography (CT), that showed a large anechogetic cystic lesion in the left abdomen, size up to 8x14x8 cm. According to CT characteristics, the lesion was identified as a mesenteric cyst. In the past the patient was treated because of acute appendicitis, laparoscopic appendectomy was performed, otherwise he was healthy.

The patient was operated in supine position under general anesthesia. Perioperative antibiotic prophylaxis was applied and sterile operative field was prepared. Initially we decided to perform exploratory laparoscopy. At laparoscopy we found a large cystic mass in the left abdomen, that was adhered to descending colon. Because of lack of space in the abdominal cavity to safely perform laparoscopic operation, we decided to convert to open surgery. We performed small median laparotomy and than we completely extirpated the cystic tumor. During surgery we also identified left ureter. A thorough abdominal exploration was performed, there was no other intra-abdominal pathology. Abdominal drain was inserted in Douglas pouch. Laparotomy was closed with resorbable interrupted sutures, skin wound was closed with staples. The postoperative course was uneventful. The abdominal drain was removed and on the fourth postoperative day he was discharged from hospital.

The final pathohistological examination of the cystic lesion revealed a cavernous lymphangioma (cystic hygroma) measuring 18x12x7 cm with up to 2 mm thick wall. The cyst was filled with clear fluid. The cystic lesion was completely extirpated. There was no malignant component or other invasive growth inside the cyst (Fig. 1).

![Fig. 1. Cystic hygroma, measuring 18x12x7 cm, that was completely removed during surgery](image)
3. DISCUSSION

Cystic hygroma was first described in 1828 by Radenbacher. Cystic hygroma (meaning “moist tumor”) belongs to a group of diseases now recognized as lymphatic malformations. In cystic hygroma cavernous lymphatic spaces communicate and grow to form large cysts that can infiltrate the surrounding tissue. Cystic hygromas can be discovered before birth or in the neonatal period. Occasionally, the cystic hygroma may not be discovered until the patient is older [6,7].

Lymphangiomas are usually classified as capillary, cavernous or cystic lymphangiomas. They may also be classified more conveniently, on the basis of size of the cysts contained, as microcystic, macrocystic and mixed lymphangiomas. Microcystic lymphangioma consists of cysts measuring less than 2 cm in size, whereas the size of cysts in case of macrocystic lymphangioma is more than 2 cm. The mixed lymphangioma is characterized by cysts of variable sizes, i.e. some cysts are more than 2 cm in size and others are less than 2 cm [6].

Cystic hygromas can manifest anywhere in the body. The common locations are cervico-facial regions (especially posterior cervical triangle), axilla, mediastinum, groin and below tongue. Occasionally, these malformations occur in liver, spleen, kidney and intestine. Omental cyst in omentum and mesenteric cyst in the mesentery of intestine represents parallel lesions at these locations [6].

Mesenteric cysts are rare intra-abdominal lesions, which are benign with known malignant potential. Cystic hygromas are benign lesions; however, complications may arise. These lesions can get infected any time. Most of them are discovered accidentally, but they can present with complications, such as intestinal obstruction, torsion, rupture, hemorrhage, obstruction of urinary and biliary tract or infection [2,4]. Abdominal pain or distension may be the first clinical sign and/or symptom of the mesenteric cyst but there is no pathognomonic sign or symptom for the diagnosis [4]. The widespread use of ultrasound, computed tomographic scanning and magnetic resonance imaging make it possible to identify an abdominal mass, to define its nature and relationships with intraabdominal organs [4].

Although mesenteric cystic lymphangioma is a benign tumor, it often has life-threatening complications such as secondary infection, rupture with hemorrhage, and volvulus or intestinal obstruction [7]. The clinical symptoms of a mesenteric lymphangioma are abdominal pain, vomiting, and constipation. As these symptoms are common to many diseases, creating a wide differential diagnosis, the specific diagnosis of mesenteric lymphangioma is challenging [7]. Some diseases can be confused on imaging with mesenteric lymphangioma; these include a pancreatic tumor, gastrointestinal stromal tumor (GIST), hemangioma and lymphangiosarcoma. In order to narrow the differential, FDG-PET is useful in the assessment of malignancy, ER in the differentiation of pancreatic tumors, and angiography in the differentiation of hemangioma [7].

Few methods are available for the treatment of mesenteric lymphangioma, surgical management being the most effective to prevent recurrence. OK432, a sclerotherapeutic agent consisting of an injectable, lyophilized incubation mixture of group A Streptococcus pyogenes, is the only medication known to be effective against lymphangioma. The tumor can be reduced in size by injecting OK432 into the cysts, and the agent is often used on the surface of a lymphangioma. There are very few available reports on the use of OK432 in treatment of mesenteric lymphangioma [8].

Two major challenges are associated with treating mesenteric cyst: the lesion may be malignant or the lesion may subsequently become malignant even if the lesion is benign at initial diagnosis. First-line treatment for mesenteric cysts is complete excision to avoid recurrence and possible malignant transformation [3]. The other treatment modalities that have been employed with variable results include simple drainage, aspirations, radiation, laser excision, radio-frequency ablation, sclerotherapy and cauterization [6,9].

The treatment of choice is complete surgical excision of the cyst. This can be done either by laparotomy or laparoscopy [5]. The decision regarding the surgical approach depends on the size, its location and level of surgeon’s experience in minimal access surgery. Laparoscopic enucleation of mesenteric cyst is feasible and should be considered as treatment of choice [5]. Bowel resection is required in a one-third of adult and 50–60% of pediatric cases. Partial excision is not indicated as there is a high recurrence rate with this modality [3]. Sometimes, complete resection and enucleation
cannot be achieved. In cases where the cyst is imbedded deep in the mesentery or when size is a factor, partial excision with marsupialization of the remainder of the cyst into the abdominal cavity (followed by sclerosis of the cyst lining) is a good option with low recurrence rates [1,10].

In our patient the cystic lesion was incidental finding on abdominal US, patient was asymptomatic. Usually cystic hygroma is diagnosed earlier in life or even before birth. Usually intraperitoneal cystic lymphangioma is located in the ileal mesentery, in our case it was located in the mesentery of descending colon. We performed a complete excision of cystic lesion. Histopathological examination confirmed a cystic hygroma, that was removed completely (Fig. 1).

The patient has been now followed up for one year and he is without any symptoms and without clinical and radiologic signs of recurrence.

4. CONCLUSION

Mesenteric lymphangioma in adult is a rare disease: it may present as an abdominal swelling or acute intestinal obstruction. Preoperative diagnostic tools are ultrasound and abdomen CT or magnetic resonance. We believe, that for intra-abdominal cystic hygroma, complete excision must be employed, because that represents definitive treatment with fast recovery and minimal risk for recurrence.

CONSENT

As per international standard or university standard written patient consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Author has declared that no competing interests exist.

REFERENCES


